Repast Features and Capabilities
December 2012

Feature/Capability	Provided By
Discrete event scheduling and execution	Repast Simphony core
Simple agent creation via Flowcharts GUI	Repast Simphony core
Simple agent creation via ReLogo	Repast Simphony core
Agent watchers and event triggers	Repast Simphony core
Multiple scenario runs with parameter sweeps	Repast Simphony core
Basic data collection, logging and graphing	Repast Simphony core
Network graph modeling, analysis, and visualization	JUNG
Structured 2D zoomable user interface toolkit	Piccolo
General-purpose charting and graphing	JFreeChart
General-purpose forecasting	OpenForecast
High-performance scientific and technical computing	Colt and Apache Commons Math
High-performance embedded relational database	HSQLDB
Collision-detection and rigid-body dynamics	JBullet
Genetic algorithms and genetic programming	JGap
Diverse scientific computation and representation	JScience
Neural networks	Joone
CSV file parsing	OpenCSV
Support for manipulating various MSOffice file formats	Apache POI
Aspect-oriented programming extensions for Java	AspectJ
High-performance data logging	Log4J
Comprehensive Java unit testing	JUnit
High-speed and extended-functionality collections	Trove and Apache Commons Collections
Mock-based testing	JMock
Full-featured earth imagery and visualization toolset	NASA Worldwind
Logging abstraction layer	SLF4J
Create sparklines	Spark

Capability to include MATLAB engine in simulations (MATLAB not included)	JMatlink
Language recognition	ANTLRWorks
Java bytecode manipulation	Javassist, ASM and Apache BCEL
Rich Java Swing components	JIDE
Audio and video content addition	JMF
Parallel and distributed computing	ProActive
Geospatial functionality	geoapi
GIS functionality	Geotools
2D spatial and topology functions	JTS
Large dataset manipulation	GridGain
Reliable multicast communication	JGroups
FTP-based file transfers	edtftpj
SQL treatment of Java objects	JoSQL
XML Manipulation, serialization, and XPath interpretation	Jaxen, JDOM, XMLPull, XStream, and SaxPath
External process execution	Apache Commons Exec
Scalable Vector Graphics (SVG) toolkit	Apache Batik
Groovy language	Groovy